



Hood and Duct Systems for Commercial Kitchens

- 2 copies of construction plans & elevations
- 2 copies structural calculations for units exceeding 400 pounds (BS) (weight to include duct, shaft and hood)
- Detail on suppression system

Minimum Requirements for Construction Drawings

Plans that do not contain the following minimum information will not be accepted for plan check. Plans shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show that it will conform to the provisions of the adopted Codes and ordinances.

The construction drawings are recommended to be 18" x 24", 24" x 36", or 30" x 42". Plans shall be drawn in indelible ink. Plan sheets that are cut and pasted, taped, or that have been altered by any means (pen, pencil, marking pen, etc.) will not be accepted for plan check. Washington State law requires that any registered professional who prepares or supervises the preparation of drawings and construction documents stamp and sign such documents.

Complete details of the kitchen ventilation system should be submitted to show compliance with the 2003 Edition of the International Mechanical Code and WAC 51-52.

- 1. Scale and north arrow. Max. scale 1" = 40, (Preferred scale would be 1" = 20' or 1" = 40')
- 2. Distance to property lines, location of roof penetrations, and other openings on the roof. For ducts exhausting at the roof, exhaust outlets shall be at least 2 feet above the roof surface and at least 10 feet from vertical surfaces of the buildings, adjacent property lines or air intake openings into the building. IMC Sec(s) 401.5, 501.2 and 507.15.
- 3. Provide framing plans and calculations, for **vertical and lateral loads**, stamped by a Washington State registered professional engineer when equipment has a combined weight exceeding 400 pounds (including duct, shaft and hood).
- 4. The type and size of cooking equipment should be clearly identified on the plans along with distances from the bottom of the hood to the top of the cooking surface. The vertical distance between canopy-type hood and cooking surface should not exceed 4 feet as required by IMC Sec. 507.12.
- 5. Plans should show that the kitchen exhaust canopy-type hood extends a minimum 6 inches beyond the cooking surface on all open sides in compliance with IMC Sec. 507.12.
- 6. Solid-fuel char broiler, if used, should be provided with a separate exhaust system, independent of all other systems serving other cooking appliances, as required by IMC Sec. 507.2.4.
- 7. Grease ducts and plenums serving a Type I hood should be at least No. 18 gage steel or stainless steel .043 inch in thickness. Type I hood should be No. 20 gage steel. IMC Sec. 507.4.

- 8. Ducts serving a Type I hood shall slope not less than 2% toward the hood where the duct length does not exceed 75 feet. IMC Sec. 506.3.7.
- 9. When the horizontal portion of the kitchen exhaust duct exceeds 75 feet in length, the slope should be at least 1 inch per lineal foot toward the hood. IMC Sec. 506.3.7.
- 10. Clean-out locations should be indicated on the exhaust duct. IMC Sec. 506.3.9.
- 11. Grease filters should be installed with the lowest edge located at the height set forth in Table 507.11 at an angle greater than 45 degrees from horizontal as required by IMC Sec. 507.11.2.
- 12. The kitchen exhaust duct should be enclosed in at least a one-hour shaft in all buildings (two-hour shaft required in Type I and Type II fire-resistive buildings). Provide framing details for duct enclosure. Include Gypsum Association File number or Item number from IBC Table 720.1(1) for one-hour rated assemblies. (Two-hour in Types I and II).
- 13. The duct enclosure should be sealed around the duct at the point of penetration and vented to the exterior at the point of termination. The shaft should be separated from the duct by at least 18 inches to combustible materials and not less than 6 inches to a gypsum wall board covered combustible surface and should serve a single grease exhaust system. IMC Sec. 506.3.10.
- 14. Exposed grease duct systems serving a Type I hood shall have at least 18 inches clearance from unprotected combustible construction. This clearance may be reduced to no less than 3 inches, provide details showing that combustible construction is protected with materials required for one-hour fire-resistive construction. IMC Sec. 506.3.6.
- 15. Type I hoods shall be designed and installed in a manner to provide an air velocity determined in accordance with IMC Sec. 507.13 and Sec(s) 507.13.1 through 507.13.4.
- 16. The following information must be provided to review air quantities and velocities in the duct to ensure compliance with IMC Sec. 507.13. The horizontal surface area, in square feet, of the hood; the distance in feet between the lower lip of the hood and the cooking surface; that part of the perimeter hood that is open, in feet; The fan's cubic-feet-per-minute rating.
- 17. Show how kitchen exhaust will be provided with make-up air equal to the amount exhausted. Make-up air system should be interlocked with the exhaust system. IMC Sec. 508.1.

Kitchen exhaust systems should be provided with an approved fire suppression system. IMC Sec. 509.1. **Fire-extinguishing equipment for protection of kitchen grease hoods and ducts may be by separate submittal.**

I have checked the applicable boxes and have included those requirements in my submittal.

Print Name

Signature